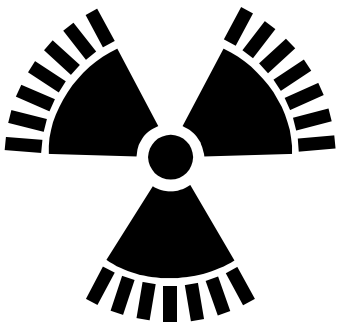


## Nuclear Power Plant Accidents



“There are 110  
nuclear power  
plants in the  
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There are 110 nuclear power plants in the continental U.S. Although the construction and operation of these facilities are closely monitored and regulated by the Nuclear Regulatory Commission, and these facilities are designed to withstand tremendous force, under extreme circumstances, they could be damaged. Such an accident could result in dangerous levels of radiation that could affect the health and safety of the public living near the nuclear power plant.

Local and state governments, federal agencies and the electric utilities have developed emergency response plans for use in the event of a nuclear power plant accident. These plans define two "emergency planning zones." One covers an area within a 10-mile radius of the plant where it is possible that people could be harmed by direct radiation exposure. The second zone covers a broader area, usually up to a 50-mile radius from the plant, where accidentally-released radioactive materials could contaminate water supplies, food crops and livestock.

### Understanding Radiation

Each of us is exposed to radiation from radioactive materials that exist in nature, including the sun and earth. Small traces of radiation are even present in food and water. Radiation is also released from man-made sources such as x-ray machines, television sets and microwave ovens. Nuclear power plants use the heat generated from nuclear fission in a contained environment to convert water to steam, which powers generators to produce electricity.

In general, radiation has a cumulative effect. The longer a person is exposed to radiation, the greater the risk. A high exposure to radiation can cause serious illness or death. Studies show that any negative health effects that might be caused by low-level exposure to radiation cannot be distinguished from those caused by other environmental hazards.

If an accident at a nuclear power plant were to release radiation in

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Cooperative Extension  
Service for the benefit of  
Florida's citizens)

“If an accident at a nuclear power plant were to release radiation in your area, local authorities would activate warning sirens.”

your area, local authorities would activate warning sirens. They would also instruct you on how to protect yourself through the Emergency Broadcast System (EBS) on local television and radio stations.

In general, there are three ways to minimize radiation exposure to your body: distance, shielding and time.

### Distance

The more distance between you and the source of the radiation the better. In a serious nuclear power plant accident, local authorities will call for an evacuation to increase the distance between you and the radiation.

### Shielding

Like distance, the more heavy, dense material between you and the source of the radiation the better. This is why local authorities could advise you to remain indoors if an accident occurs at a nearby nuclear power plant. In some cases, the walls in your home would be sufficient shielding to protect you.

### Time

Most radioactivity loses its strength fairly quickly. In a nuclear power plant accident, local authorities will monitor any release of radiation and determine when the threat has passed.

## How to Prepare for a Nuclear Power Plant Accident

Know the terms used to describe a nuclear emergency:

- Notification of an unusual event—A small problem has occurred at the plant. No radiation leak is expected. Federal, state and county officials will be told right away. No action on your part will be necessary.
- Alert—A small problem has occurred, and small amounts of radiation could leak inside the plant. This will not affect you. Federal, state and county officials will stand by. You should not have to do anything.
- Site area emergency—This is a more serious problem. Small amounts of radiation could leak from the plant. If necessary, state and county officials will act to ensure public safety. Area sirens may be sounded. Listen to your radio or television for safety information.

- General emergency—This is the most serious problem. Radiation could leak outside the plant and off the plant site. Emergency sirens will sound. Tune to your local radio or television station for reports. State and county officials will act to ensure public safety. Be prepared to follow their instructions promptly.

Learn your community's warning system. Nuclear power plants are required to install sirens and other warning systems to cover a 10-mile area around the plant. Find out when the sirens will be tested next and what they sound like. The next time a test is conducted in your area, determine whether you can hear the sirens from your home.

“Remember—local instructions take precedence over information in this handbook.”

Obtain public emergency information materials from the power company that operates your local nuclear power plant or from your local emergency services office. If you live within 10 miles of the power plant, you should receive these materials every year from the power company or your state or local government.

Learn the emergency plans for schools, day care centers, nursing homes and other places where members of your family might be. Learn where people would go in case of evacuation. Stay tuned to your EBS stations for further updates.

Be prepared to evacuate. Gather in advance clothing, a battery-powered radio and personal items to take with you. Consider your transportation options. If you do not own or drive a car, call your local emergency management office and ask for more information.

## What to Do in a Nuclear Power Plant Emergency

- Keep calm. Not all incidents result in the release of radiation. The incident could be contained inside the plant and pose no danger to the public.
- Stay tuned to local radio or television stations. Local authorities will provide specific information and instructions.
  - The advice given will depend on the nature of the emergency, how quickly it is evolving and how much radiation, if any, is likely to be released.
  - Local instructions should take precedence over any advice given here.
  - Review the public information materials you received from the power company or government officials.

“Keep calm. Not all incidents result in a release of radiation.”

- Evacuate if you are advised to do so.
  - Close and lock home doors and windows.
  - Keep car windows and vents closed; use recirculating air.
  - Listen to radio broadcasts for evacuation routes and other instructions.
- If you are not advised to evacuate, remain indoors.
  - Close doors and windows.
  - Turn off the air conditioner, ventilation fans, furnace and other air intakes.
  - Go to a basement or other underground area if possible.
  - Keep a battery-powered radio with you at all times.
- If you must go outdoors, cover your nose and mouth with a handkerchief.
- Shelter livestock and give them stored feed, if you are advised to do so by local authorities.
- Do not use the telephone unless absolutely necessary. All lines will be needed for emergency calls.
- If you have just been outdoors, take a thorough shower.
  - Change your clothes and shoes.
  - Put the items you were wearing in a plastic bag.
  - Seal the bag and store it out of the way.
- Put food in covered containers or in the refrigerator. Food not previously in covered containers should be washed first.